

Automatic Speed Control And Accident Avoidance Of Vehicles Using Ultrasonic Distance Sensor And Smoke Sensor

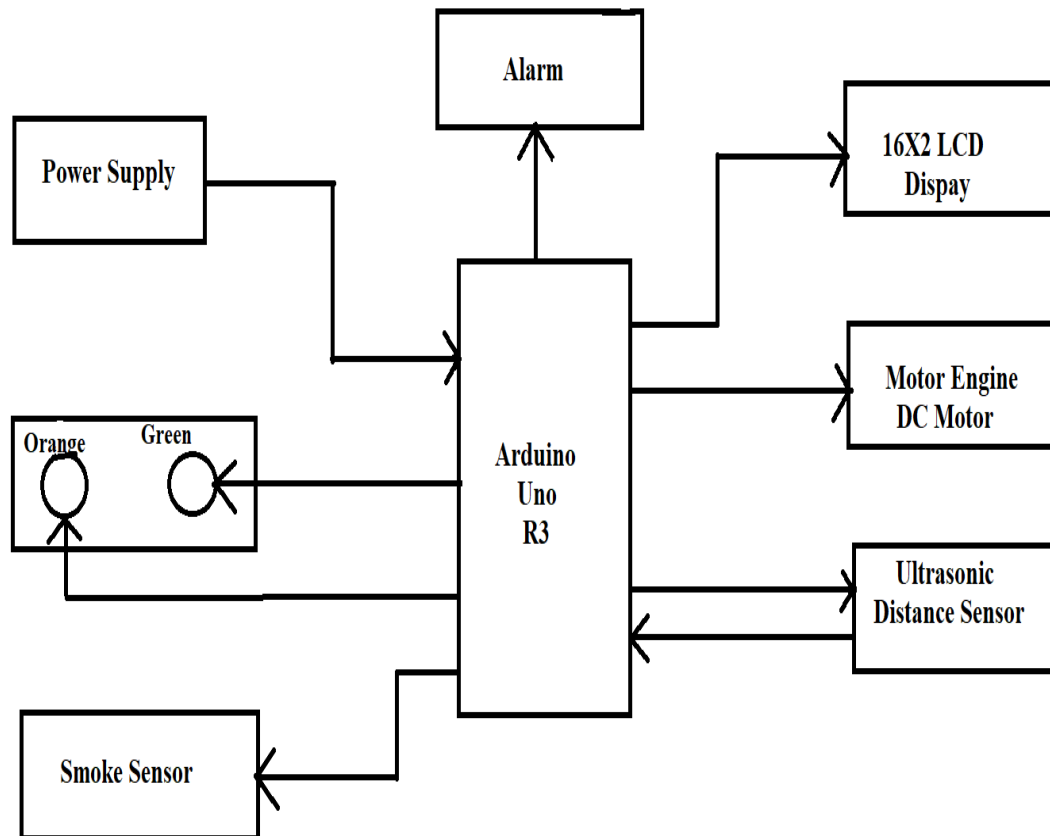
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PROBLEM STATEMENT

- Road accident is most unwanted thing happened with a road user. Unfortunately we don't learn from our mistake on road. Most users are quite well aware of the general rules and safety, which causes accidents and crashes. Also accidents are prevented due to driving a vehicle with too much speed, some driver does not consider the availability of road and drive the car without considering the obstacles that may front of them. Drunken driving, Distraction of driver, Red light jumping and overtaking in a wrong manner these are the most common behavior of road drivers, which leads to accidents.



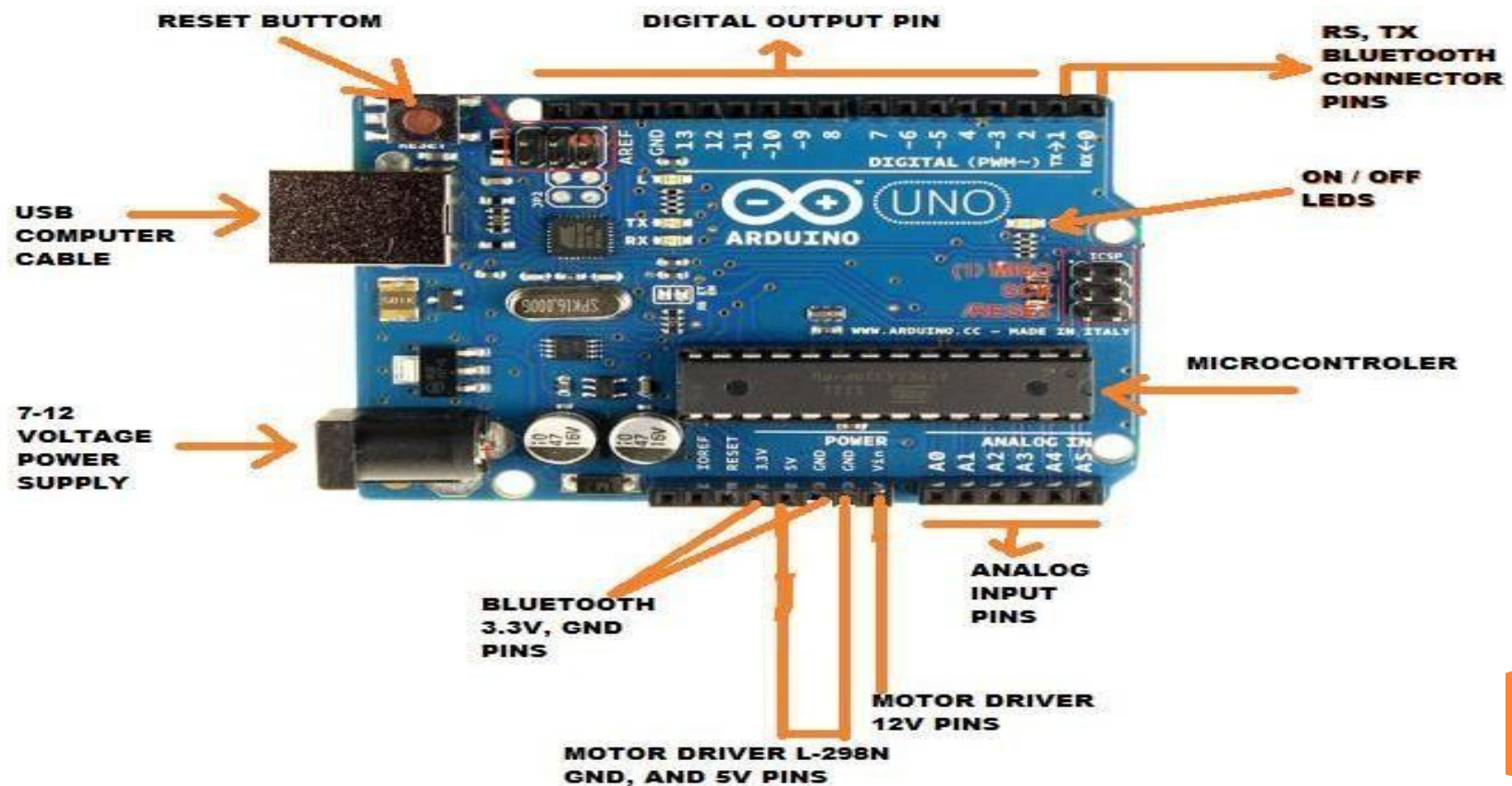
BLOCK DIAGRAM OF SYSTEM



SHORT INTRODUCTION ABOUT ELECTRONIC ACCESSORIES

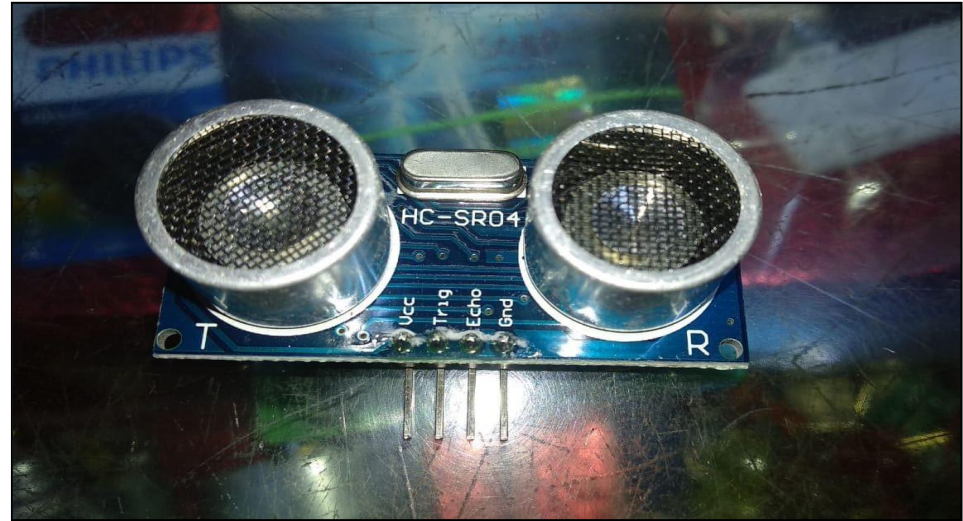
1) ARDUINO UNO MODULE

Arduino is an open source electronics platform based on easy to use hardware and software. Arduino boards are able to read input –light on a sensor, a finger on a button and turn it into an output-activating a motor, turning on an LED, publishing something online.



2) ULTRASONIC DISTANCE SENSOR

An ultrasonic sensor is an electronic device that measures the distance of a target object by emitting ultrasonic sound waves, and convert the reflected sound into an electrical signal.



3) MQ2 GAS/ SMOKE SENSOR

This sensor used for sensing the concentration of gases in the air such as LPG, methane, hydrogen, smoke and carbon monoxide.



4) DC MOTOR

An DC motor is a machine that converts electrical energy into mechanical energy, and uses the electricity generated to produce rotational motion and thereby to do work.

DC motor used in many household appliances like mixers, blenders also used in toys ,CD and DVD etc.



5) 16X2 LCD Display

LCD is electronic display module that uses liquid crystal to produce a visible image i.e.. text and graphics. It commonly used in circuits.



6) Alarm/Buzzer

It is audio signaling device. Typical use of buzzers include alarm devices, printers, computers and other electronic products as sound devices.



7) LED (LIGHT EMITTING DIODE)

The LED is a PN-junction diode which emits light when an electric current passes through it in the forward direction. LED is light emitting diode which convert electrical energy directly into light.



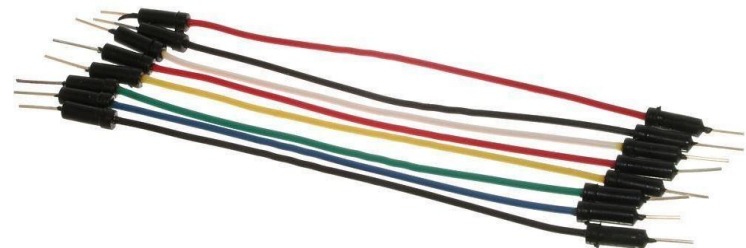
8) DATA TRANSFER USB CABLE

A data transfer USB cable transmits information in the form of binary electrical communication signals between systems. It transfer data from one computer to another.

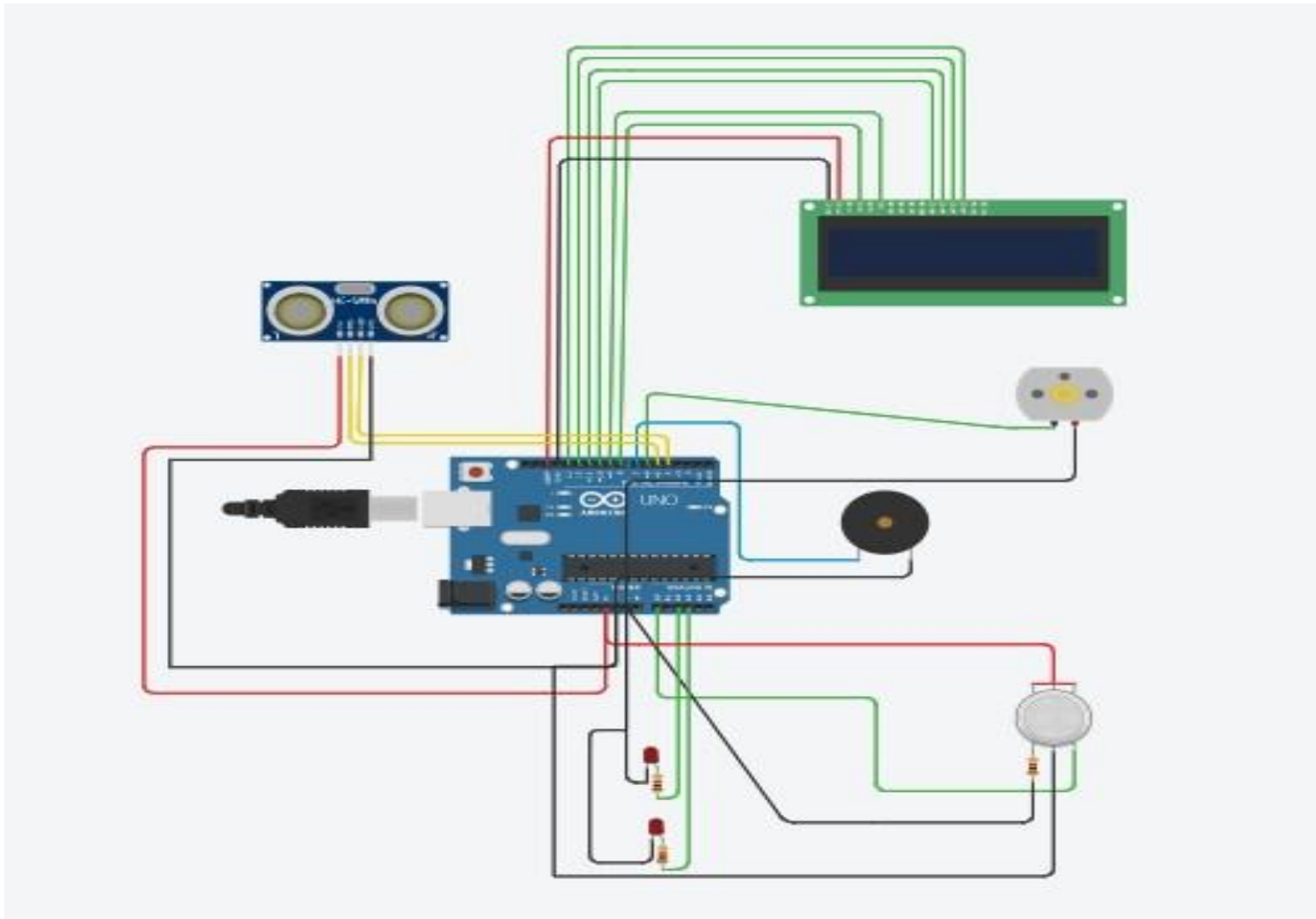


9) JUMPERS WIRE

These are simply wires that have connector pins at each end, allowing them to ne used to connect two points to each other without soldering. Jumper wires are used with breadboards.



CIRCUIT DIAGRAM OF SYSTEM



CONCLUSION

- The project “ Automatic Speed Control And Accident Avoidance Of Vehicles Using Multi sensors” is aimed to provide human safety while driving any vehicle. It has been mainly designed in order to avoid accidents and to alert the drivers about speed limits for safe travelling. It is used to control the speed of vehicle in hospital, school and work zones. There the vehicle speed can controlled automatically without the help of the driver. At the same time it detects obstacles and stop the vehicle, so that accident will be prevented.

